NEWS RELEASE

NGA Announces Winners of NURI Grant Competition

BETHESDA, Md. – The National Geospatial-Intelligence Agency's Office of Basic and Applied Research announces its grant awards for the Fiscal 2007 NGA University Research Initiative (NURI) program.

The objective of the NURI program is to enhance U.S. universities' ability to perform research in geospatial science, mathematics and engineering topics integral to geospatial intelligence and, in conjunction with that research, provide education in related science and engineering areas critical to U.S. national security.

This year's program requested research in the following seven special topic areas, listed below with their corresponding awards. Initial awards are for two years, with a value of about $300,000. Many of the awards include up to three one-year options valued at about $150,000 per year.

Topic 1. Research in extracting geospatial data and accounts of movement from natural language (free text such as narratives and speech) and integrating the results with other data in geospatial data bases. Information systems today do not adequately support capture and manipulation of geospatial data that is available in free text, and tools are needed to isolate and extract such data from both writing and speech and to translate it to entries in a geographic information system (GIS). GIS capabilities must be enhanced to support information they do not presently accommodate.

> Pennsylvania State University, University Park, Pa., "Geographic Contextualization for Accounts of Movement." Principal Investigator: Dr. Alan M. MacEachren.

Topic 2. Research in rapid monitoring and prediction of surface-water levels. Timely knowledge of changing water levels, such as in lakes, reservoirs, rivers and wetlands, is important for providing support for disaster monitoring and crisis response.

> Ohio State University, Columbus, Ohio, "Towards High-Resolution Rapid Monitoring and Prediction of Hydrologic Change." Principal Investigator: Professor C.K. Shum.

New Mexico State University, Las Cruces, N.M., "Tools for Rapid Monitoring and Prediction of the Rio Grande Basin." Principal Investigator: Dr. William L. Stein.

Topic 3. Research in modeling and characterizing soils, for application to detection of buried landmines, unexploded ordnance and tunnels. Buried landmines and improvised explosive devices are hazards to civilians and military personnel worldwide.

New Mexico Institute of Mining and Technology, Socorro, N.M., "Global Prediction of Dielectric and Thermal Soil Properties." Principal Investigator: Dr. Jan M.H. Hendrickx

Nevada Desert Research Institute, Reno, Nev., "Desert Soil Characterization for Detection of Buried Landmines, Unexploded Ordinance, and Tunnels." Principal Investigator: Donald E. Sabol Jr.

Topic 4. Research in how the atmosphere interacts with oceans, and how oceans interact with the solid Earth. Those interactions cause variations in the Earth's rotation. Better understanding of those interactions will help to improve predictions of the Earth's rotation that are needed for accuracy in the widely-used Global Positioning System.

State University of New York, Binghamton, N.Y., "Best Approach Corrections to Atmospheric Angular Momentum Data." Principal Investigator: Steven R. Dickman.

Ohio State University, Columbus, Ohio, "Role of Atmosphere-Ocean Interaction in Earth Orientation Prediction." Principal Investigator: Dr. Jun-Yi Guo.

Topic 5. Research in biologically and geometrically-inspired object-recognition methods for use with imagery.

Ohio State University, Columbus, Ohio, "A Biologically and Geometrically Inspired Approach to Target Recognition for Multispectral/Hyperspectral and Multiplatform Image Analysis." Principal Investigator: Dr. Rongxing (Ron) Li.

University of Minnesota, Minneapolis, Minn., "Geometry, Partial Differential Equations and Sparsity in Target Detection/Recognition and Image Signatures." Principal Investigator: Dr. Guillermo Sapiro.

Topic 6. Research in analytic tools and techniques for geospatial information science, with special emphasis on analysis of geodynamic processes.

University of California, Santa Barbara, Calif., "A Geostatistical Framework for Geospatial Data Analysis and Modeling across Multiple Spatial and Temporal Scales." Principal Investigator: Dr. Michael F. Goodchild

University of California, Los Angeles, Calif., "Development and Testing of Non-Linear PDE Models of Crime Hotspot Dynamics." Principal Investigator: Dr. P. Jeffrey Brantingham.

Michigan Technological University, Houghton, Mich., "Geostatistical Space-Time Inverse Modeling with Remotely Sensed Data." Principal Investigator: Dr. Tyler Erickson

Topic 7. Research in characterizing image signatures.

Rochester Institute of Technology, Rochester, N.Y., "Dynamic Analysis of Spectral Imagery for Improved Exploitation." Principal Investigator: Dr. David W. Messinger.

University of Utah, Salt Lake City, Utah, "Hyperspectral Algorithms for Mapping Hot Object Temperature and Trace Gas Emissions." Principal Investigator: Dr. Philip E. Dennison.

The NURI program is a component of the NGA Academic Research Program. Information about the NGA Academic Research Program can be found at http://www.nga.mil/narp.

NGA is a Department of Defense combat support agency and a member of the National Intelligence Community. The Agency's mission is to provide timely, relevant and accurate geospatial intelligence in support of our national security. The term "geospatial intelligence" means the exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically referenced activities on the Earth. Geospatial intelligence consists of imagery, imagery intelligence and geospatial (e.g., mapping, charting and geodesy) information.

Headquartered in Bethesda, Md., NGA has major facilities in the Washington, D.C., Northern Virginia and St. Louis, Mo., areas with NGA support teams worldwide. Visit our Web site at http://www.nga.mil.

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